IN THE CLAIMS

Please amend the claims as shown below. Claims 9, 15 and 16 are amended herein. This listing of claims replaces all prior versions and listings of claims in the Application.

1. (Original) A computerized method for decoding a sequence of binary digits of a received signal comprising:

a) accessing said received signal comprising data and a sample;

b) extracting a data bit from said received signal;

c) accessing a received table;

d) indexing said received table to map said data bit to a corresponding known value;

e) calculating a sum comprising a squared difference between said sample and said known value;

f) storing said sum into a memory unit; and

g) selecting a codeword from a memory resident table corresponding to a minimum value of said sum.

2. (Original) The method as recited in Claim 1, wherein said steps c) through g) are repeated to select a plurality of codewords.

3. (Original) The method as recited in Claim 1, wherein said sum comprises a series of values.

4. (Original) The method as recited in Claim 3, further comprising selecting one of said series of values.

5. (Original) The method as recited in Claim 4, wherein said selecting one of said values further comprises selecting a value minimizing said sum.

6. (Original) The method as recited in Claim 1, wherein said memory resident table comprises a first table of forward error control soft decision words, said method further comprising creating a plurality of second tables.

7. (Original) The method as recited in Claim 6, wherein said plurality of second tables comprises forward error control words.

8. (Original) The method as recited in Claim 6, wherein said plurality of second tables further comprises forward error control words with extract bits for inter-symbol interference determination.

9. (Currently Amended) A computer system comprising:

a bus;

a processor coupled to said bus; and

a computer-readable memory unit coupled to said bus;

wherein said processor performs a method for decoding a sequence of binary digits of a received signal, said method comprising:

accessing said received signal comprising data and a sample;

extracting a data bit from said received signal;

accessing a received table;

indexing said received table to map said data bit to a corresponding known value;

calculating a sum comprising a squared difference between said sample and said known value;

storing said sum into said computer-readable [[a]] memory unit; and

selecting a codeword from a memory resident table corresponding to a minimum value of said sum.

10. (Original) The system as recited in Claim 9 wherein said sum further comprises a series of values.

11. (Original) The system as recited in Claim 10, further comprising selecting one of said series of values.

12. (Original) The system as recited in Claim 11, wherein said selecting one of said values further comprises selecting a value minimizing said sum.

13. (Original) The system as recited in Claim 9, wherein said memory resident table comprises a first table of forward error control soft decision words, said method further comprising creating a plurality of second tables.

14. (Original) The system as recited in Claim 13, wherein said plurality of second tables comprises a table selected from a list consisting of forward error control words and forward error control words with extract bits for inter-symbol interference determination.

15. (Currently Amended) The system as recited in Claim 9 wherein said device comprises ~~is~~ a portable computer system.

16. (Currently Amended) A computer usable medium having a computer readable program code embodied therein for causing a computer system to

perform a method for decoding a sequence of binary digits of a received signal, said method comprising:

accessing said received signal comprising data and a sample;

extracting a data bit from said received signal;

accessing a received table;

indexing said received table to map said data bit to a corresponding known value;

calculating a sum comprising a squared difference between said sample and said known value;

storing said sum into a memory unit; and

selecting a codeword from a memory resident table corresponding to a minimum value of said sum.

17. (Original) The computer usable medium as recited in Claim 16 wherein said sum further comprises a series of values.

18. (Original) The computer usable medium as recited in Claim 17, further comprising selecting one of said series of values.

19. (Original) The computer usable medium as recited in Claim 18, wherein said selecting one of said values further comprises selecting a value minimizing said sum.

20. (Original) The computer usable medium as recited in Claim 16, wherein said memory resident table comprises a first table of forward error control soft decision words, said method further comprising creating a plurality of second tables.

21. (Original) The computer usable medium as recited in Claim 20, wherein said plurality of second tables comprises a table selected from a list consisting of forward error control words and forward error control words with extract bits for inter-symbol interference determination.

22. (Original) The computer usable medium as recited in Claim 16, wherein said method is executed by a portable computer.

23. (Original) In a receiver system comprising a processor and a memory, a computerized method for decoding a received signal comprising a frame header with a known forward error correction (FEC) component, said frame header also comprising control bytes with parity, said computerized method comprising:

accessing said received signal;

accessing a received table comprising a first plurality of sample values corresponding to individual bit combinations, said received table stored in said memory;

determining an instantaneous value of said received signal;

generating parity data corresponding to said control bytes, said parity data compiled into a first memory resident table with said control bytes;

accessing a second memory resident table comprising a second plurality of data signals affecting said control bytes and said FEC component;

generating a third memory resident table comprising information combined from said received table and said first and second memory resident tables;

summing a sum in said processor the square of the difference between said instantaneous value and corresponding said sample values;

repetitively indexing said third memory resident table for subsequent individual bit combinations; and

selecting a codeword from said third memory resident table corresponding to a minimum value of said sum.